RECYCLE USED OIL

USED LUBE OIL REREFINING A SUCCESSFUL INVESTMENT

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USED LUBE OIL REREFINING

Used lube oil is a mixture of different types and grades of used lubricants, contaminants and degradation products coming from motor crankcases and industry.

Used lube oil is classified as toxic and hazardous waste to be properly disposed according to Waste Framework Directive 2008/98/EC and subject to the following requirements:

- Used lube oil shall be segregated and collected, not allowed to be dumped.
- Used lube oil shall be treated in accordance with waste hierarchy and protection of the environment and human health.
- Used lube oil treatments are established according to the level of contamination.

2 l OF USED LUBE OIL GIVE 1,5 l OF RE-REFINED OIL

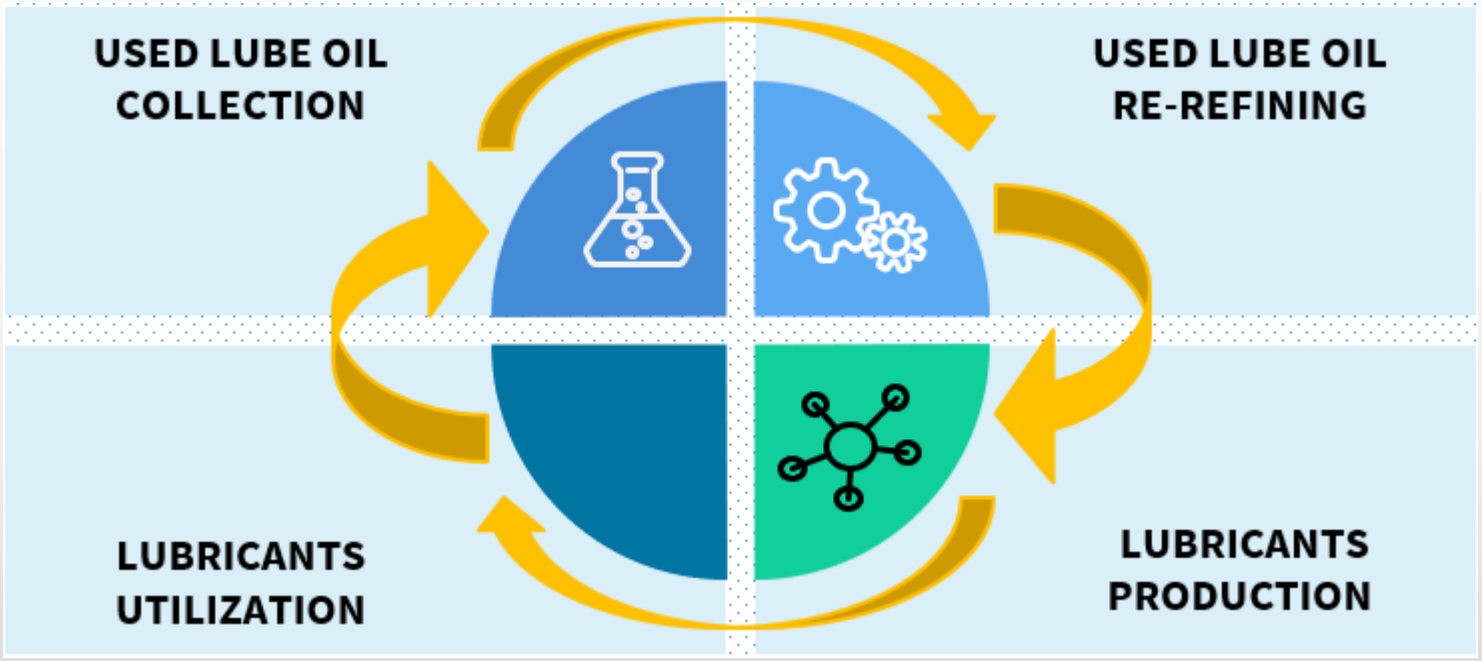
Re-refining of used lube oil is an economically attractive recycling method in terms of resources conservation and environment protection. It allows processing hazardous and toxic material in a safe and effective way to recover a high-quality oil product.

Used lube oil can be re-refined as many time as you like.

Used lube oil re-refining is a Circular Economy model and an attractive business opportunity as well as an environment protection process.

USED LUBE OIL REREFINING CIRCULAR ECONOMY MODEL

Lubrificants are ideal candidates for the circular economy because used lube oils retain much of their basic lubricating structure.



USED LUBE OIL RE-REFINING ADVANTAGES

ENVIRONMENT PROTECTION

HIGH QUALITY PRODUCTS AND LESS DEPENDENCE ON IMPORTED OIL

ENERGY CONSUMPTION OF RE-REFINING IS LOWER THAN FOR VIRGIN BASE OIL PRODUCTION

RE-REFINING IS A STRONG ECONOMIC INCENTIVE FOR ENVIRONMENT PROTECTION AND ENERGY SAVING

USED LUBE OIL COLLECTION

Collection of used lube oil is the starting point for a succesfull Re-refining.

Re-refining depends on collection effectiveness and used lube oil availability.

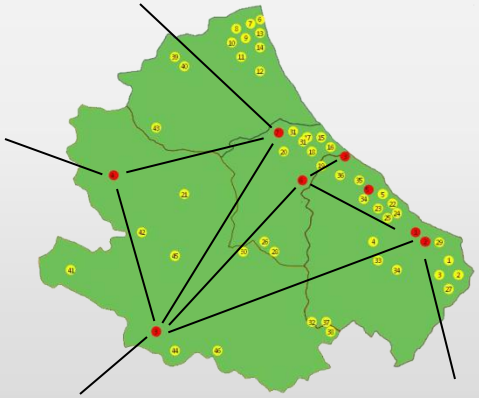
Used lube oil is collected at garages, maintenance/repair shops, gas stations, truck fleets and industries

Efficient collection facilities are a need for Re-refining in terms of used lube oil quantity and quality

SUCCESS OF RE-REFINING DEPENDS ON THE COLLECTION SYSTEM

USED LUBE OIL COLLECTION STRATEGY

- Investigation on used lube oil sources
- Division of the territory in Areas and Sectors
- Storage capacity of collection centres
- Transport network and truck drivers formation
- Used lube oil Pre-selection Tests
- Segregation of contaminants



USED LUBE OIL PRESELECTION TESTS

PCB / PCT, wt ppm	25 max
Cl, wt %	0.5 max
S, wt %	1.5 max
Saponification N°, mgKOH/g	18 max
Heavy fuel oil (drop test)	pass
Fatty acids (lux test)	pass

USED LUBE OIL RE-REFINING

Re-refining removes all the contaminants from used lube oil to recover base oil product.

During the last years many factors have obliged rerefiners to look for alternative Re-refining process, such as:

- increased use of additive packages in the formulation of lubricants and by consequence higher level of contaminants in the used oil
- increased amount of thermal degradation products due to longer mileage of the lubricants
- base oil product yield and specification

Among the available today processes, STP Re-refining offers a low energy high yield operation, high quality products and absence of noxious wastes or by products.

STP REREFINING PROCESS

STP is Pioneer on Used Lube Oil Re-refining since 30 years to produce Base oils Group I and Group II, Marine Fuel RMB-30, VGO feedstock to Refinery Units.

STP has implemented several Re-refining Plants of different capacity worldwide and provides the latest high-tech green Re-refining Process.

USED LUBE OIL RE-REFINING PLANT
STP LIST OF REFERENCES

Pos.	Client	Location	Capacity TPY	Year
1	YUNITCO	Yanbu, Saudi Arabia	190,000	Ongoing
2	HILL GROUP	Klaipeda, Lithuania	60,000	Ongoing
3	RE-GEN III	Oiltanking Galveston – Texas City, USA	5,600 BPSD	2022
4	ORIGIN INTL	Baltimore, USA	3,500 BPSD	2020
5	UNDISCLOSED	Puskhino, Russia	150,000	2019
6	AKWA	Mohammedia, Morocco	27,000	2017
7	KLOC KSCC	Ahmadi, Kuwait	33,000	2014
8	VEOLIA ES	St. Hyacinth, Canada	60,000	2013
9	ECOIL Italia	Ferrandina, Italy	65,000	2013
10	OSILUB (TOTAL/VEOLIA)	Gonfreville L'Orcher, France	120,000	2012
11	SIRAL SpA	Nola, Italy	30,000	2008
12	KLOC KSCC	Ahmadi, Kuwait	27,000	2000
13	SOTULUB	Bizerte, Tunisia	20,000	1998
14	GROUP LWART	Lençóis Paulista, Brazil	60,000	1997
15	RAMOIL	Naples, Italy	30,000	1996
16	SOTULUB	Bizerte, Tunisia	16,000	1989
17	LPC / CYCLON	Aspropyrgos, Greece	25,000	1985

STP USED LUBE OIL RE-REFINING MAP

API DEFINITION FOR BASE OILS

API guidelines on Base Oil Quality Assurance and Base Oil Interchange classify base stocks into six **base stock groups** according to defined physical and chemical characteristics as follows:

Group I

Base stocks containing less than 90 mass percent saturates and/or greater than 0.03 mass percent sulphur and having a viscosity index greater than or equal to 80 and less than 120.

Group II

Base stocks containing greater than or equal to 90 mass percent saturates and less than or equal to 0.03 mass percent sulphur and having a viscosity idnex greater than or equal to 80 and less than 120.

Group III

Base stocks containing greater than or equal to 90 mass percent saturates and less than or equal to 0.03 mass percent sulphur and having a viscosity index of greater than or equal to 120.

API DEFINITION FOR BASE OILS

Group IV — Base stocks are polyalphaolefins (PAO)

Group V — All base stocks not included in Groups I, II, III, IV or VI.

Group VI — Base stocks are polyinternalolefins (PIO)

Property	Test Method
Saturates Content	ASTM D 2007
Viscosity Index	ASTM D 2270
Sulphur Content	ASTM D 2622, ASTM D 4294, ASTM D 4927, ASTM D 3120

STP RE-REFINING PROCESS

STP Re-refining Process removes all the contaminants from the used lube oil and produce high quality base oil either API Group I or API Group I^+ and Group II.

STP Re-refining process does not release harmful or pollutant wastes to be disposed and is therefore environment friend.

Effluents are process water sent to treatment before disposal and off gas routed to thermal oxidizer to prevent smelling.

STP RE-REFINING PROCESS MERITS

- Continuous plant operation
- High flexibility towards feedstock quality and composition
- High process yield. The lube oil recovery is more than 95% of the lubricant fraction present in the used oil.
- High separation selectivity, removal of contaminants and production of high-quality base oils
- Low energy and low utility consumption
- High on-stream efficiency without corrosion, fouling, coking
- Environment safeguarding operation and no use of acid and clays
- Management of all odorous compounds to eliminate malodorous and toxic emissions
- CAPEX and OPEX highly competitive

UNIT OPERATIONS

1. PRETREATMENT AND DEHYDRATION

Used oil is preheated to remove water, gasoline, VOC, light contaminants (solvents, glycols, lighter organic). Water and lights hydrocarbons are separated.

Lights hydrocarbons (gasoline) are used as substitution fuel.

2. LIGHT GASOIL STRIPPING

Dehydrated oil is stripped under vacuum for light gasoil removal and flash point adjustment of lube oil.

3. TFE VACUUM DISTILLATION

Oil from Light Gasoil stripper is sent to vacuum distillation to recover vacuum distillate oil fraction from heavier contaminants.

Vacuum distillation is carried out under high vacuum conditions, high temperature and by Thin film evaporator.

Thin film evaporator achieves high selectivity and oil purification from metals, heavy polymers, carbon, asphaltene and dust.

FOCUS ON
THIN FILM EVAPORATOR

Thin film evaporator (TFE) is a vertical cylindrical shell enclosed in an heating jacket with an internal rotor distributing a thin layer of oil on the heated wall, by means of rotating blades.

By the action of rotor (electrically driven) high turbulence and back mixing occur in the thin layer of the oil film and product degradation at high temperature is avoided.

Main features of thin film evaporator are:

- short residence time in order of few seconds;
- high heat transfer rate through the film;
- efficient and regenerative cleaning of the contact surface

Cracking and fouling problems are avoided by keeping low residence time, low wall temperature and high flow turbulence.

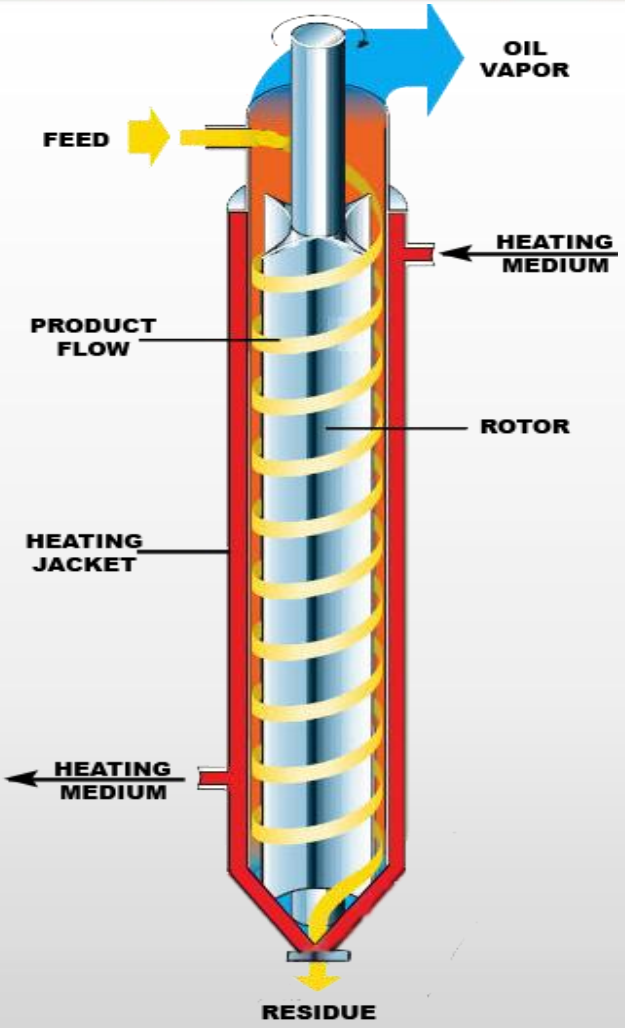
Lube oil is recovered as distillate while heavy components, additives, metals and degradation products are concentrated in the bottom residue.

FOCUS ON
THIN FILM EVAPORATOR

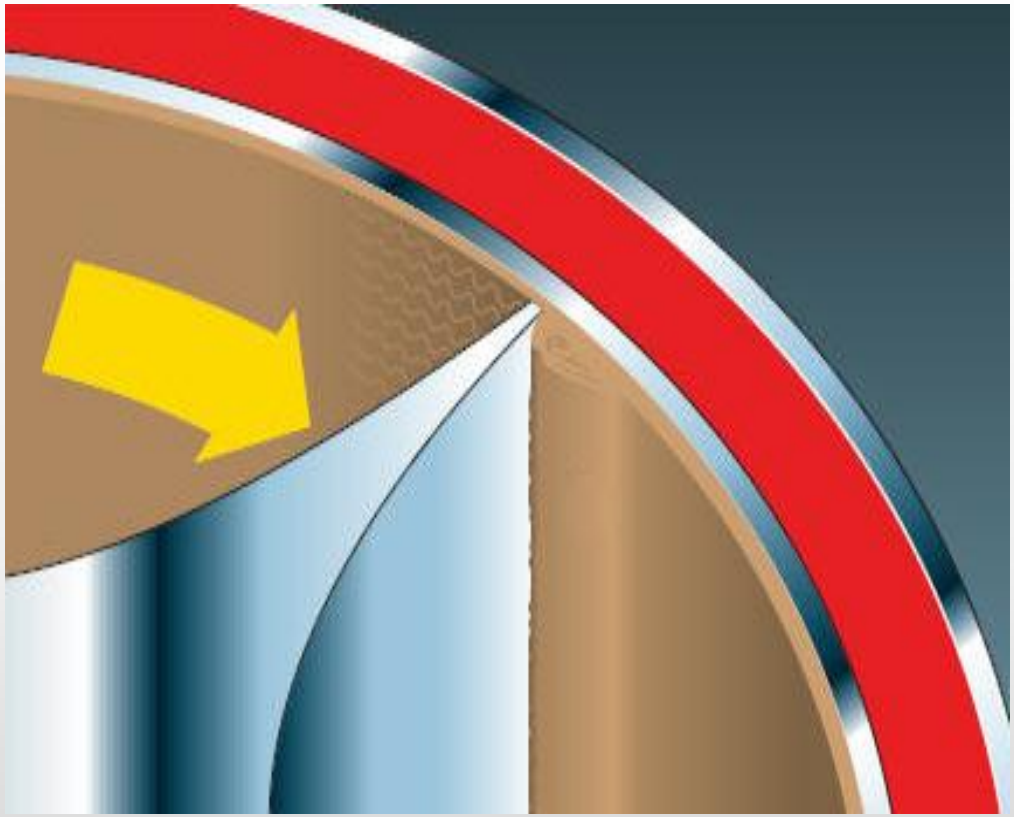
- **OPERATING PRINCIPLE**
  The Thin Film Evaporator consists of a cylindrical shell with internal rotor and external heating jacket

- **FEED**
  The feed is distributed by the rotor blades and spread on the heated wall to form a highly turbulent thin layer.

- **PRODUCTS**
  Oil fractions are evaporated and flow out up towards the top
  Heavy components flow in a spiral path down to the bottom as residue.



FOCUS ON
THIN FILM EVAPORATOR



FEATURES

- Short residence time and high turbulence in the film give high heat transfer coefficient and avoid overheating, cracking and fouling
- High evaporation rate is obtained by a simple pass
- High oil yield is achieved without degradation or polymerization of the oil
- High onstream factor and easy maintenance

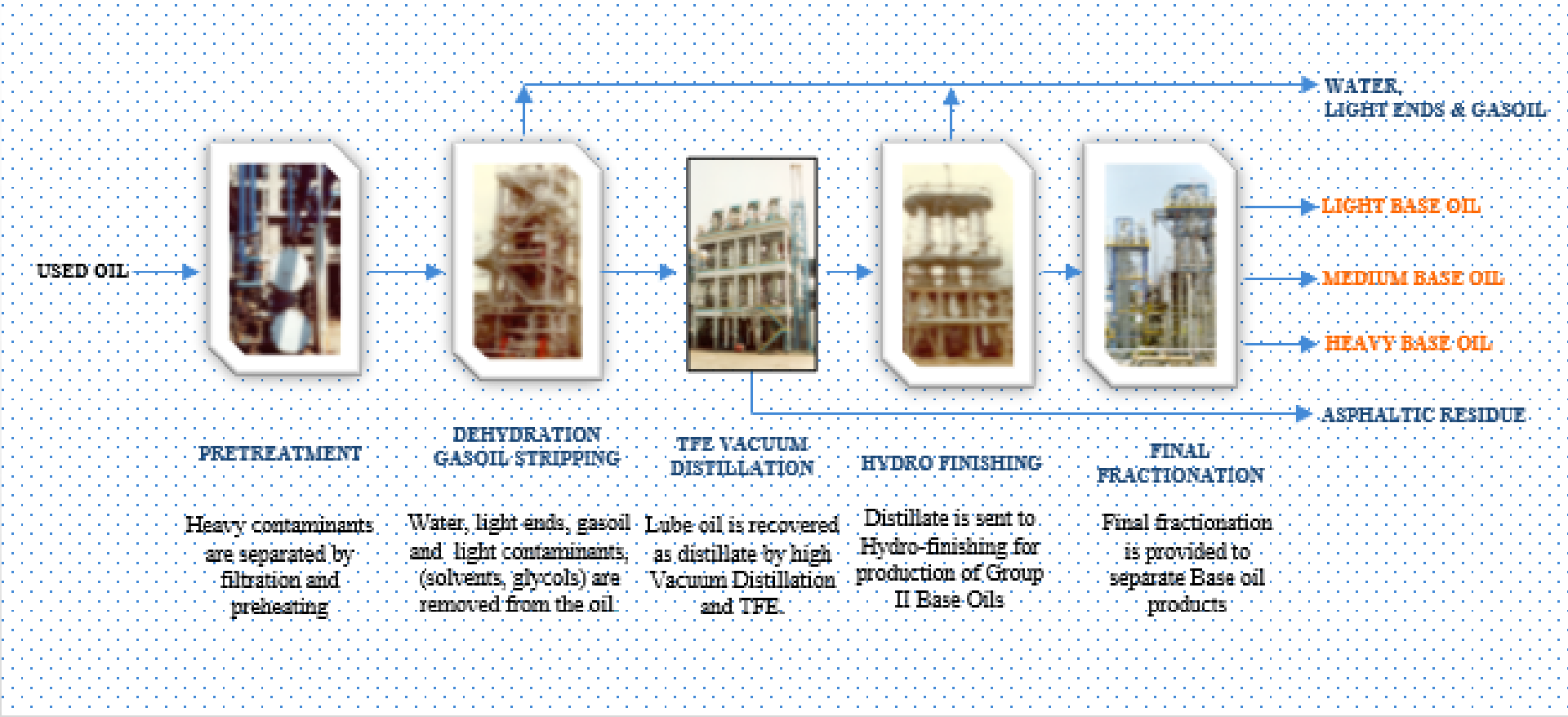
4. FINISHING AND FINAL FRACTIONATION

Distillate from Vacuum distillation is further finished to improve product quality.
Finishing is done by Chemical Reactor to produce Base oil API Group I or
by Hydrofinishing to produce Base oil API Group I^+ and API Group II.

Hydrofinishing provides deep removal of contaminants such as chlorinated, sulfurous and oxygenated organic compounds and polyaromatic hydrocarbons and ensure oxydation and color stability.
Mild Hydrofinishing is used to produce Base oil API Group I^+.
Severe Hydrofinishing is required to produce Base oils API Group II.

Finished oil is then fractionated to produce light, medium and heavy base oil.

FLOW SCHEME


WATER, LIGHT ENDS & GASOIL
USED OIL
LIGHT BASE OIL
MEDIUM BASE OIL
HEAVY BASE OIL
ASPHALTIC RESIDUE
PRETREATMENT
Heavy contaminants are separated by filtration and preheating
DEHYDRATION GASOIL STRIPPING
Water, light ends, gasoil and light contaminants, (solvents, glycols) are removed from the oil
TFE VACUUM DISTILLATION
Lube oil is recovered as distillate by high Vacuum Distillation and TFE
HYDRO FINISHING
Distillate is sent to Hydro-finishing for production of Group II Base Oils
FINAL FRACTIONATION
Final fractionation is provided to separate Base oil products

STP RE-REFINING PROCESS HIGHLIGHTS

- ✓ Several Used Lube Oil Re-refining Plants implemented all over the world from 16,000 Ton/year to 270,000 Ton/year capacity
- ✓ Advanced vacuum system for high vacuum level stability, based on the combined use of steam ejectors and individual tubular condensers.
- ✓ High efficiency/low pressure drops structured packing in Vacuum distillation and Final fractionation, to reduce pressure drops and upgrade oil yield and product separation.
- ✓ Fixed blades Thin Film Evaporator (TFE) to avoid coking and fouling.
- ✓ Special type of API pumps and instrumentation for critical services.

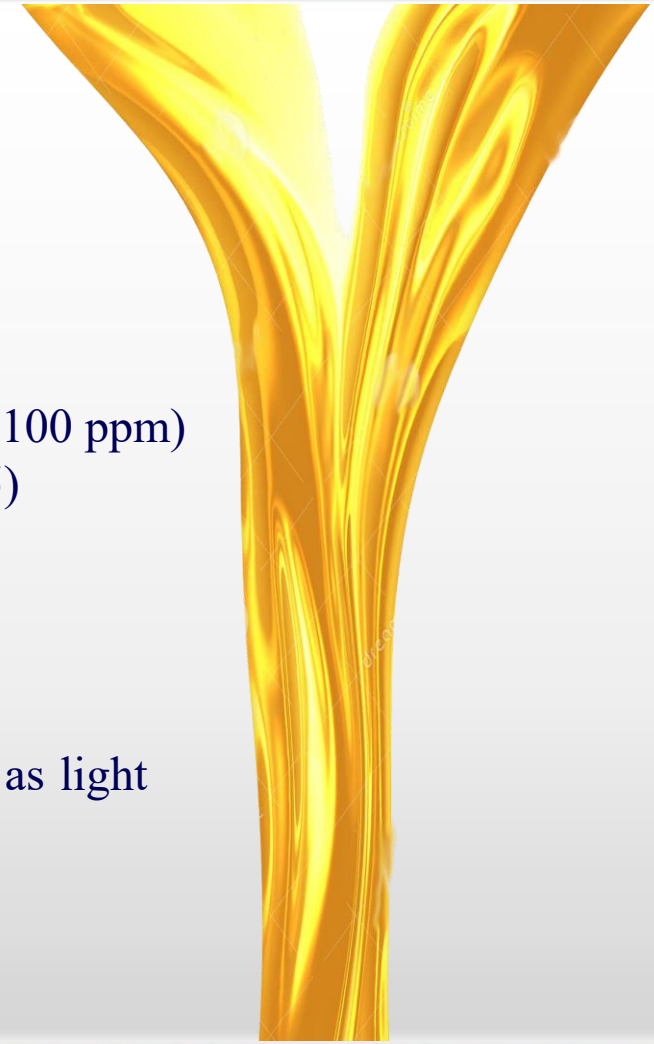
STP RE-REFINING PROCESS HIGHLIGHTS

- ✓ All pumps doubled to avoid plant shut down in case of pump failure.
- ✓ Full DCS/PLC plant automation for continuous operation.
- ✓ Indirect heating of heavy streams to prevent fouling.
- ✓ Special mechanical design for thermal flexibility, vacuum operation and fouling services.
- ✓ Use of antifouling to reduce maintenance and cleaning operation.
- ✓ Proprietary design of Base Oil finishing for Group I, Group I^+ and Group II

PRODUCTS CHARACTERISTICS

LIGHT GASOIL

Specific gravity at 15 °C	0.850
End point, °C	370
Viscosity, cst at 40 °C	3-5
Sulfur, wt%	0.4 (after Hydrofinishing: 50 – 100 ppm)
Colour	2.5 (after Hydrofinishing: L 0.5)
Flash point, °C	80



Light Gasoil can be used as substitution fuel in the Plant or as light fuel oil in industrial fired heaters and/or boilers.

Light Gasoil after Hydrofinishing can be used as Diesel

PRODUCTS CHARACTERISTICS

MARINE FUEL RMB-30 and VGO

Distillation range, °C	370 - 550
Specific gravity at 15°C	0.900 max
Viscosity, cst @ 40°C	25-30
Flash point, °C	210 min
Sulfur, wt%	0.25
CCR, wt%	0.1 max
TAN, mgKOH/g	0.1 max
Ashes, wt%	0.2
Metals content, wt ppm	L 10

VGO is used as feedstock to Refinery FCC and HDC Units

PRODUCTS CHARACTERISTICS RE-REFINED BASE OILS

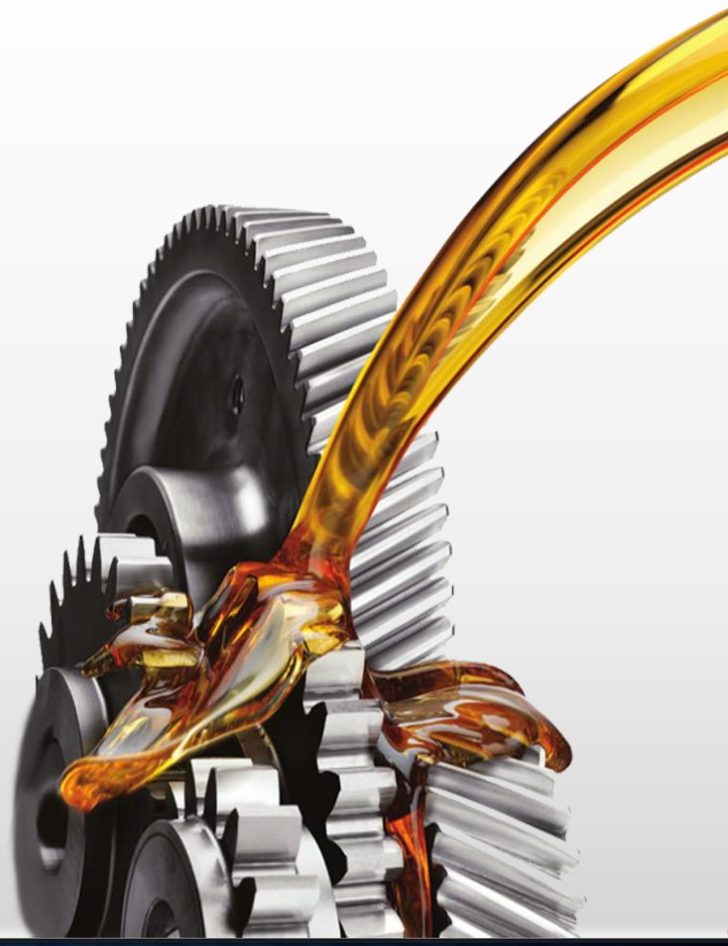
API GROUP I AND GROUP I+

Characteristics	Light Base Oil		Heavy Base Oil	
	Mild Hydrofinish Group I+	Chemical Treatment Group I	Mild Hydrofinish Group I+	Chemical Treatment Group I
Specific gravity at 15 °C	0.870	0.870	0.885	0.885
Viscosity, cst at 40 °C	25-32	25-32	85-95	85-95
Sulfur, wt%	0.05	0.25	0.05	0.30
CCR, wt%	L 0.01	0.05	L 0.01	0.07
Colour	L 1.0	2.0	L 1.5	2.5
TAN, mg KOH/g	L 0.01	0.03	L 0.01	0.05
Flash point, °C	220	220	260	260
Pour point, °C	-3	-3	-6	-6
Metals, ppm	absent	L 10	absent	L 10

PRODUCTS CHARACTERISTICS
RE-REFINED BASE OILS

API GROUP II

Characteristics	Light Base Oil	Heavy Base Oil
Specific gravity at 15 °C	0.870	0.880
Viscosity, cst at 40 °C	25-32	85-95
Viscosity Index	110	115
Sulfur, wt%	L 0.03	L 0.03
Saturates, wt%	≥90	≥90
CCR, wt%	L 0.01	L 0.01
Colour	L 0.5	L 1.0
TAN, mg KOH/g	L 0.01	L 0.01
Flash point, °C	220	260
Pour point, °C	-6	-9
Metals, ppm	absent	absent



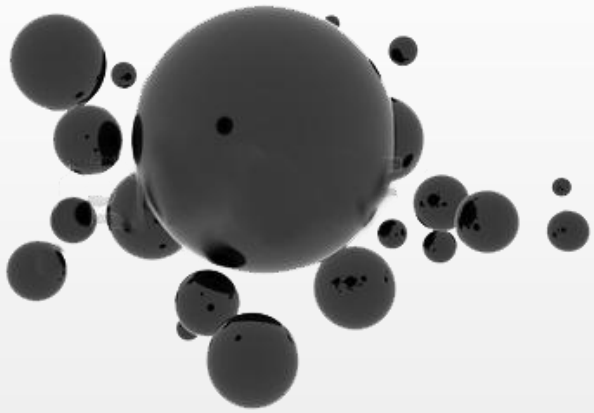
PRODUCTS CHARACTERISTICS RE-REFINED BASE OILS

API GROUP II

Characteristics	Light Base Oil	Heavy Base Oil
PCB, wt ppm	L 1	L 1
PCT, wt ppm	L 5	L 5
PNA, wt ppm	L 1000	L 1000
Cl, wt ppm	L 1	L 1
Cu corrosion	1a	1a
Noack , %wt	10	L 5
Saponification N°	L 0.5	L 0.5
Demulsification N°	10	10
Oxydation stability		
CCR increase, %	0.10	0.15
Viscosity ratio @ 40°C	1.09	1.1
Color stability	1.0	1.0

PRODUCTS CHARACTERISTICS
RE-REFINED BASE OILS

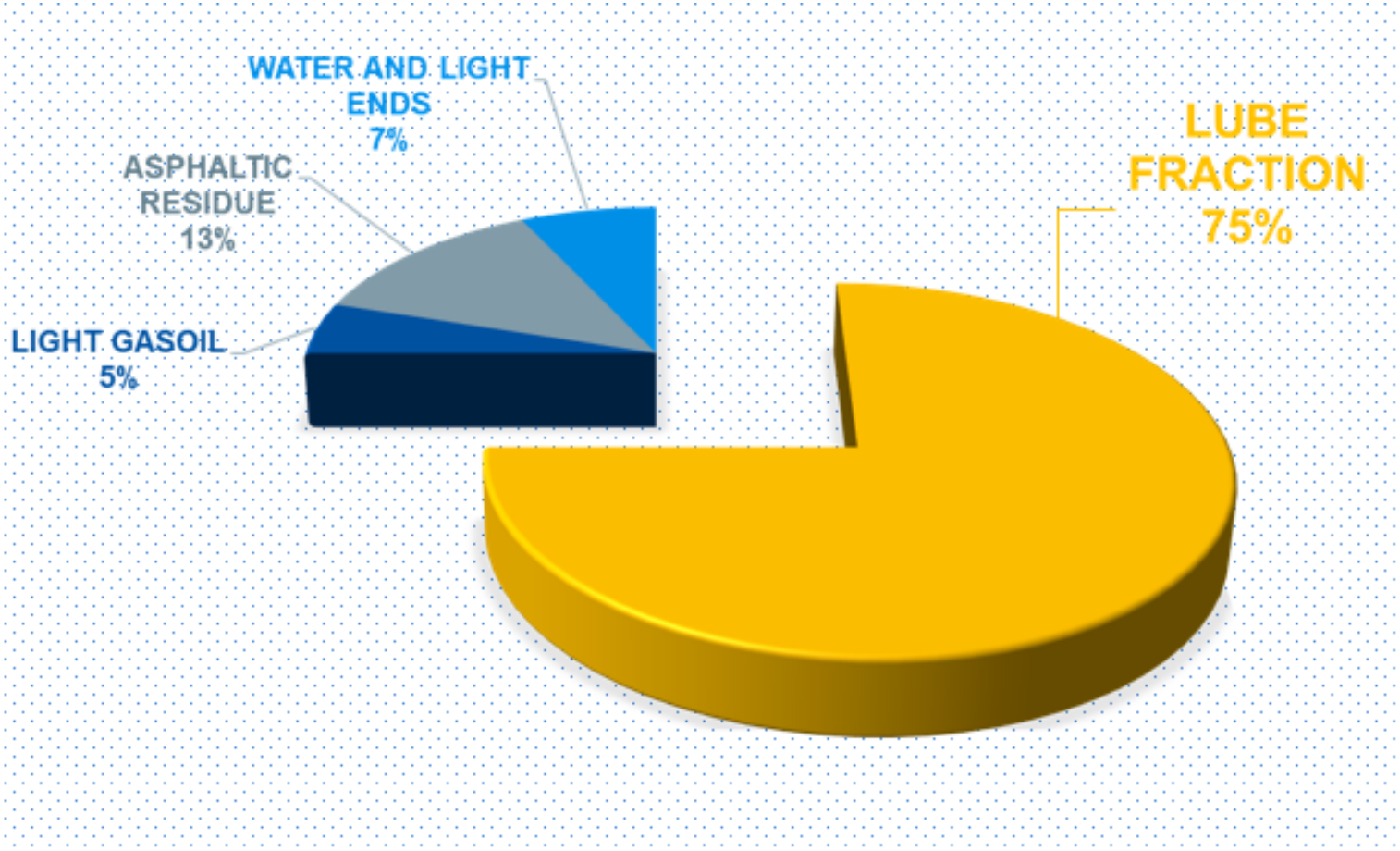
ASPHALTIC RESIDUE



Specific gravity at 15 °C	0.950 - 1.050
Viscosity, cst	
at 40 °C	10,000
at 100 °C	80
Sulfated ash, wt%	3-4
Sulfur, wt%	1-2
Penetration, mm/10 at 25 °C	200-400
Softening point, °C	15-20

Residue contains high quantity of asphaltenes, polymers, metals and can be used for the production of paving asphalt, bituminous protective coating, asphalt blending or as fuel in the cement factories.

USED LUBE OIL COMPOSITION



UTILITIES & OFFSITE FACILITIES TO RE-REFINING

- Electric power system
- Steam system
- Cooling water system
- Compressed air system
- Waste Water Treatment
- Thermal Oil System
- Thermal Oxidizer
- Hydrogen Plant (in case of Group I^+, II)
- Flare system (in case of Group I^+, II)
- Fire fighting system
- Used oil and Products storage and loading system

UTILITIES CONSUMPTION (PER MT OF USED LUBE OIL)

Service	Base oil API Group I Production	Base oil API Group II Production
Electric power, Kwh	25	55
Circulating cooling water, m^3	30	40
Steam, Kg	340	400
Circulating Thermal Oil, 10^3Kcal	130	320

OPERATION STAFF

Operating labour requirements is depending on Plant operating philosophy, site location and Plant implementation within an existing complex.
Typical labor and technical staff requirement of the Re-refining Unit is as follows:

▪ Plant Manager	1
Plant Operation:	
▪ Supervisor/Board person (1 per shift)	4
▪ Operators (2 per shift)	8
Maintenance/Workshop	
▪ Supervisors	1
▪ Workers	4
▪ Laboratory	2
Total	**20**

The staffing estimate is provided as a guideline and is intended for preliminary assessment.

LAND AREA REQUIREMENT

The Used Oil Re-refining Unit is a very compact facility.

Typical ISBL layout area required for a 50,000 MTPY Re-refining Unit is as follows :

Production of Base Oil API Group I (without Hydrofinishing)	**2,000 sq.mt**
Production of Base Oil API Group I^+ and II (including Hydrofinishing and H2 Plant))	**10,000 sq.mt**

FLOW SCHEMES

BLOCK SCHEME

USED OIL

DEHYDRATION

LIGTH GASOIL STRIPPING

VACUUM DISTILLATION

FINISHING

FINAL FRACTIONATION

WATER AND LIGHT ENDS

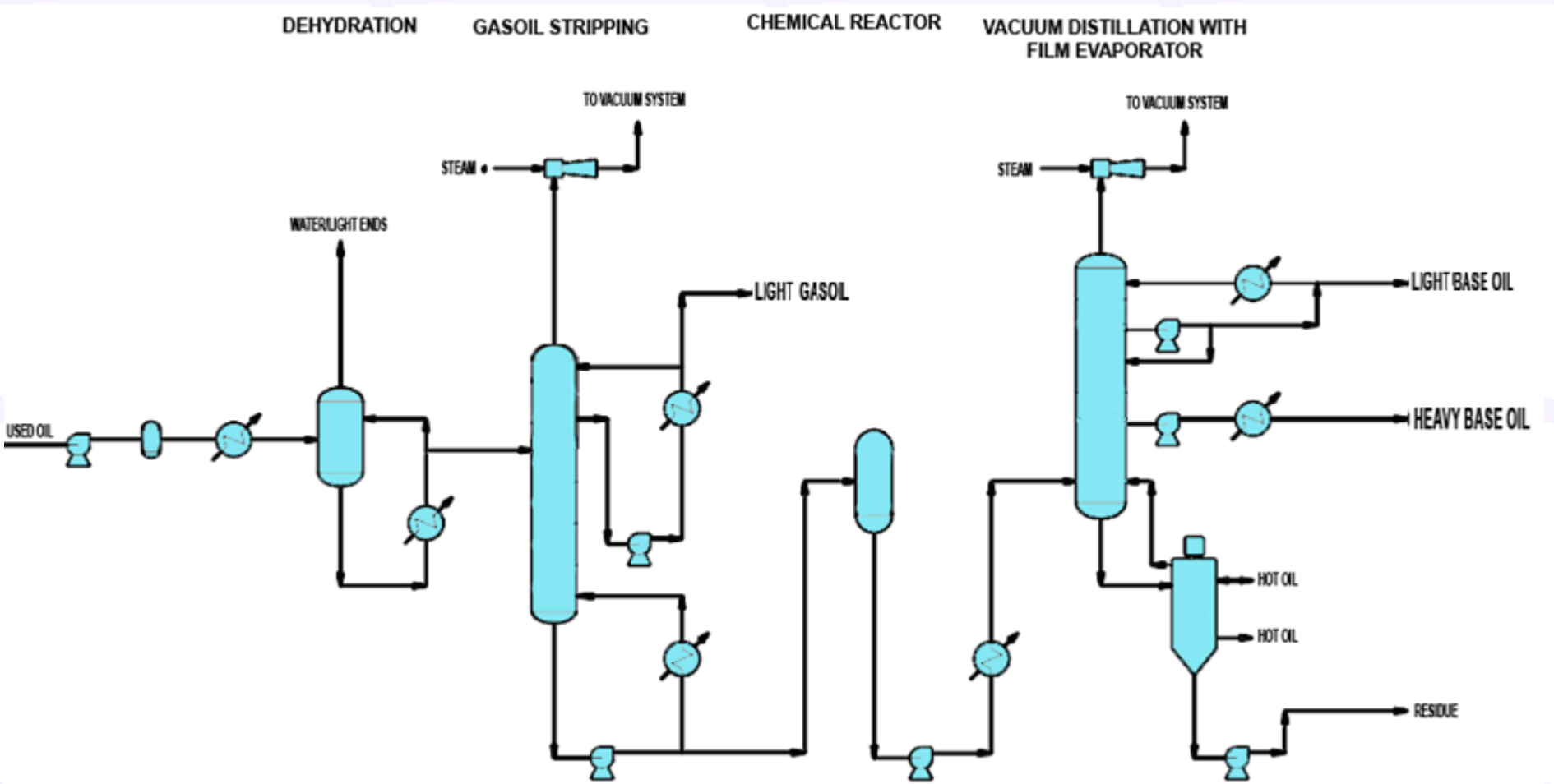
LIGHT GASOIL

LIGHT BASE OIL

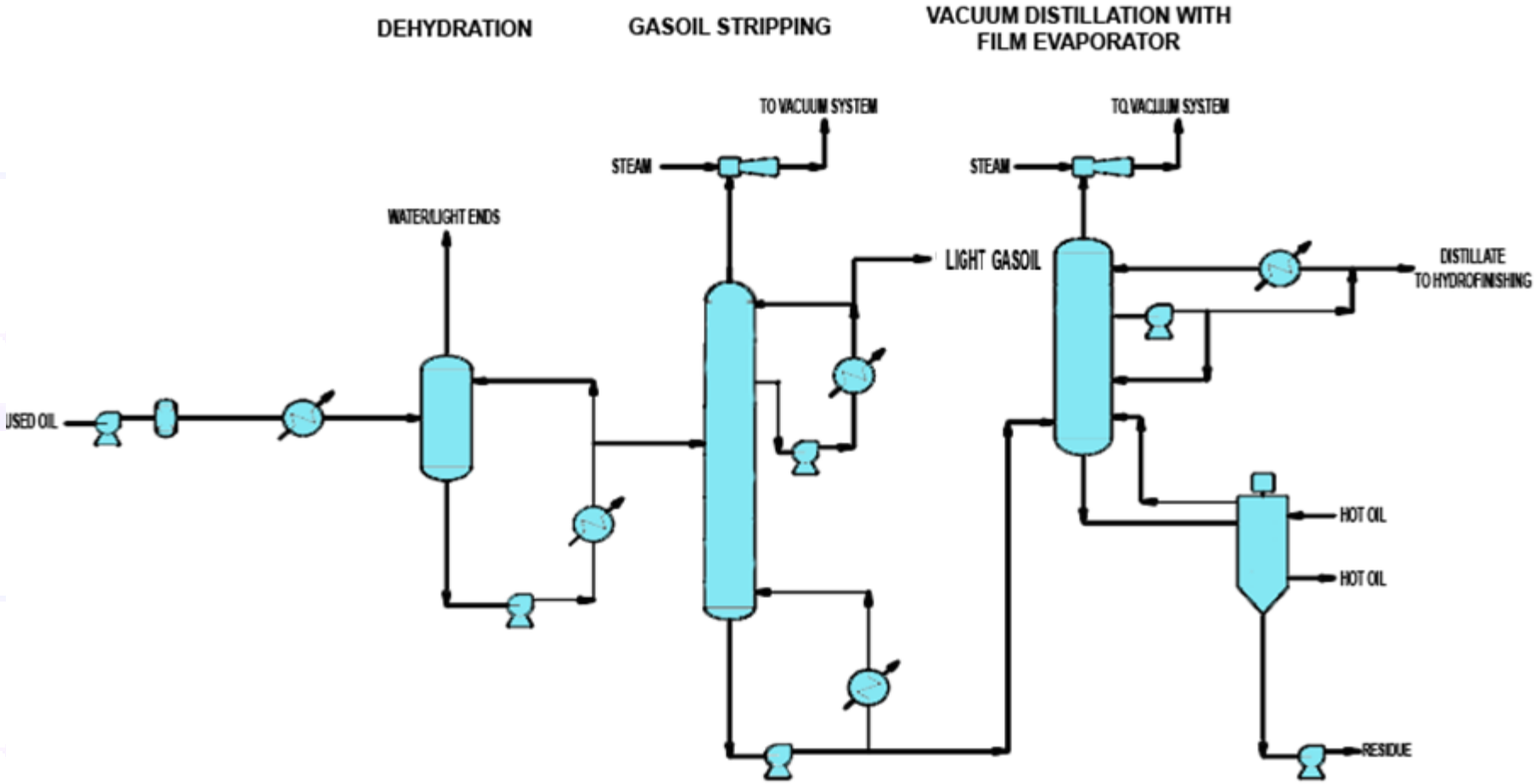
HEAVY BASE OIL

RESIDUE

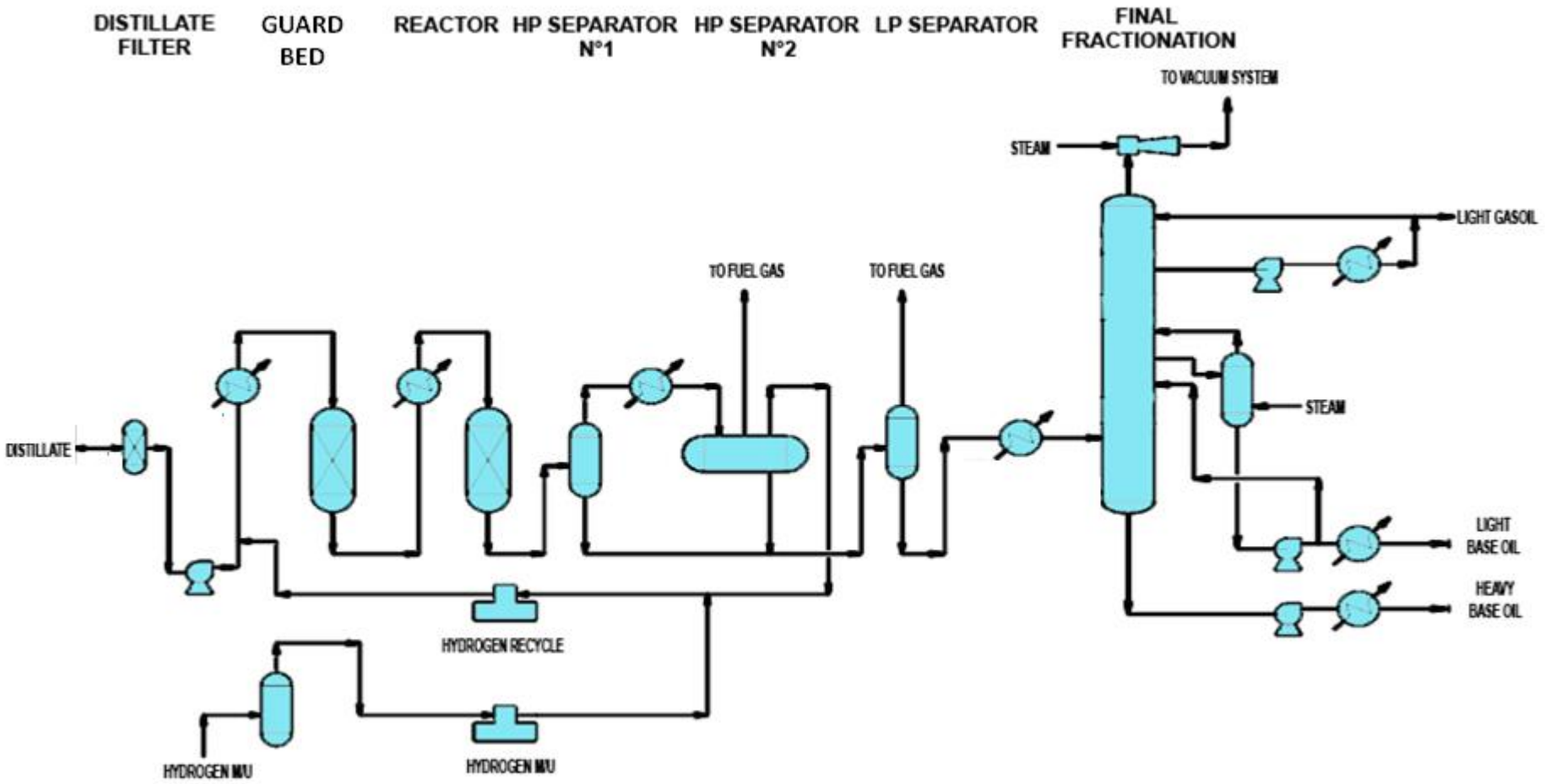
PRODUCTION OF BASE OIL GROUP I



PRODUCTION OF BASE OIL API GROUP II AND API GROUP I+



PRODUCTION OF BASE OIL
API GROUP II AND API GROUP I+



CLIENT: YUNITCO

Client: YUNITCO
Yambu, Saudi ARABIA

Capacity: 190,000 Ton/year

Year: Ongoing

REFERENCE PLANT: HILL GROUP

Client: HILL GROUP
Klaipeda, Lithuania

Capacity: 60,000 Ton/year

Year: Ongoing

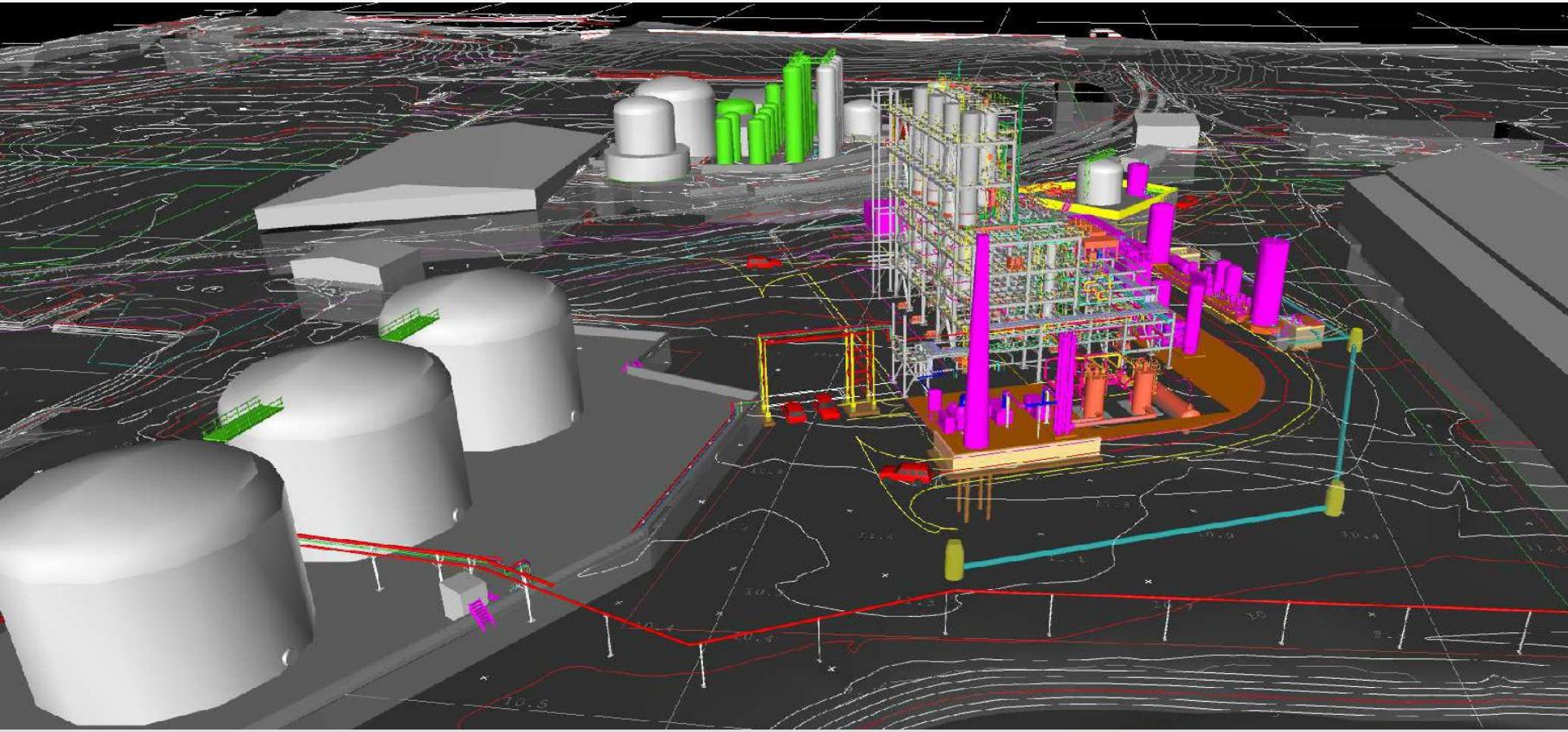
REFERENCE PLANT: REGEN III

Client: ReGen III
Galveston Texas City, USA

Capacity: 5,600 BPSD
(270,000 Ton/y)

Year: 2022

REFERENCE PLANT: ORIGIN INTL



Client: ORIGIN INTL
Baltimore, USA

Capacity: 3,500 BPSD

Year: 2020

REFERENCE PLANT: RUSSIA

Client: UNDISCLOSED
Russia

Capacity: 150,000 Ton/year

Year: 2019

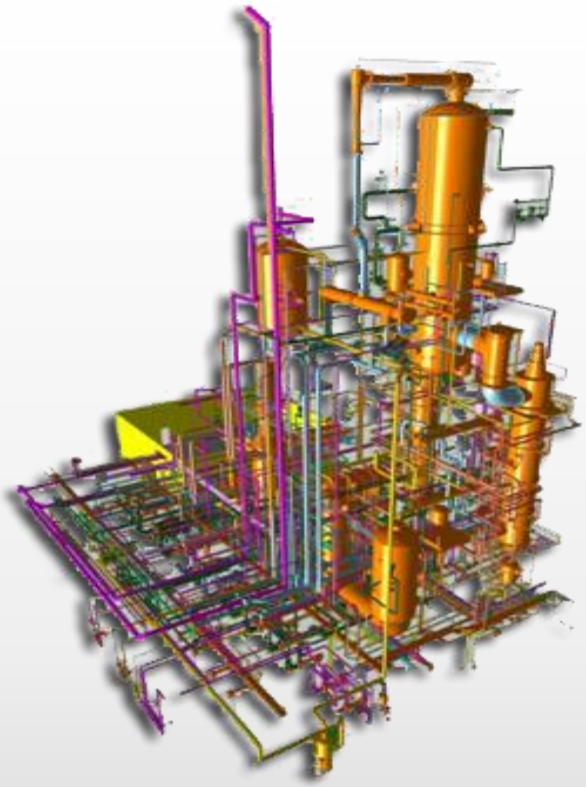
REFERENCE PLANT: RUSSIA

Client: UNDISCLOSED
Russia

Capacity: 150,000 Ton/year

Year: 2019

REFERENCE PLANT: KLOC



Client: KLOC KSCC
Ahmadi, Kuwait

Capacity: 33,000 Ton/year
(Revamping)

Year: 2014

REFERENCE PLANT: VEOLIA

Client: VEOLIA ES CANADA
St. Hyacinthe, Quebec

Capacity: 60,000 Ton/year

Year: 2013

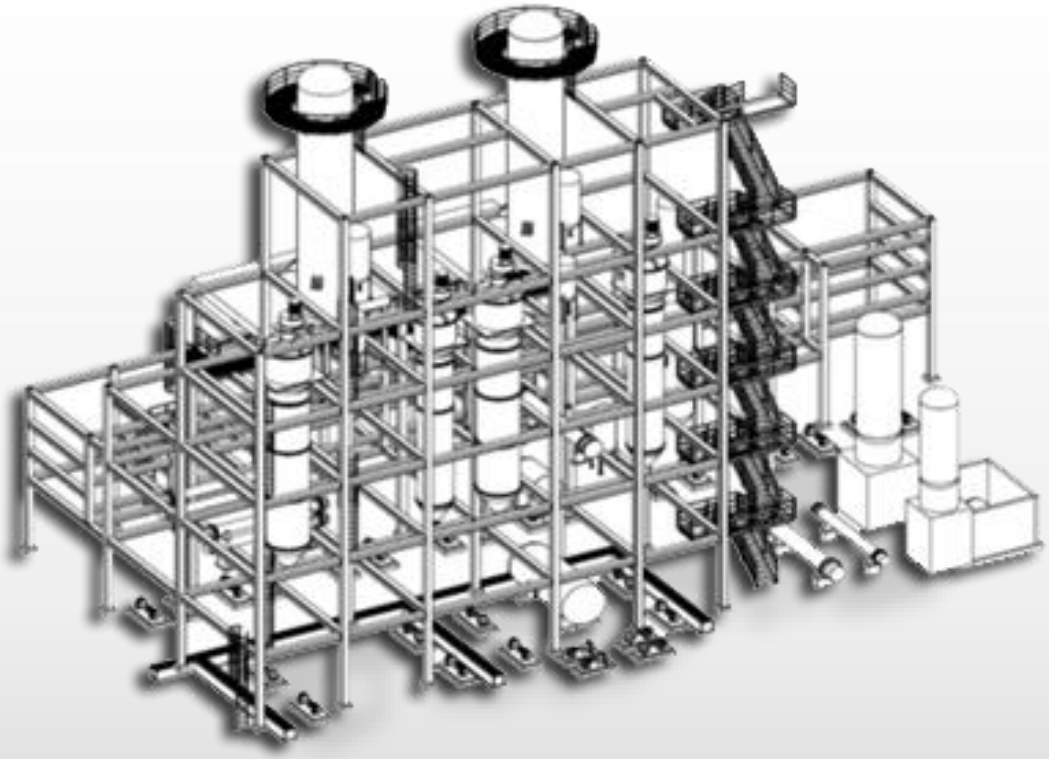
REFERENCE PLANT: VEOLIA

Client: VEOLIA ES CANADA
St. Hyacinthe, Quebec

Capacity: 60,000 Ton/year

Year: 2013

REFERENCE PLANT: ECOIL



Client: ECOIL ITALIA
Ferrandina, Italy

Capacity: 65,000 Ton/year

Year: 2013

REFERENCE PLANT: OSILUB

Client: TOTAL / VEOLIA – OSILUB
Gonfreville L'Orcher – France

Capacity: 120,000 Ton/year

Year: 2012

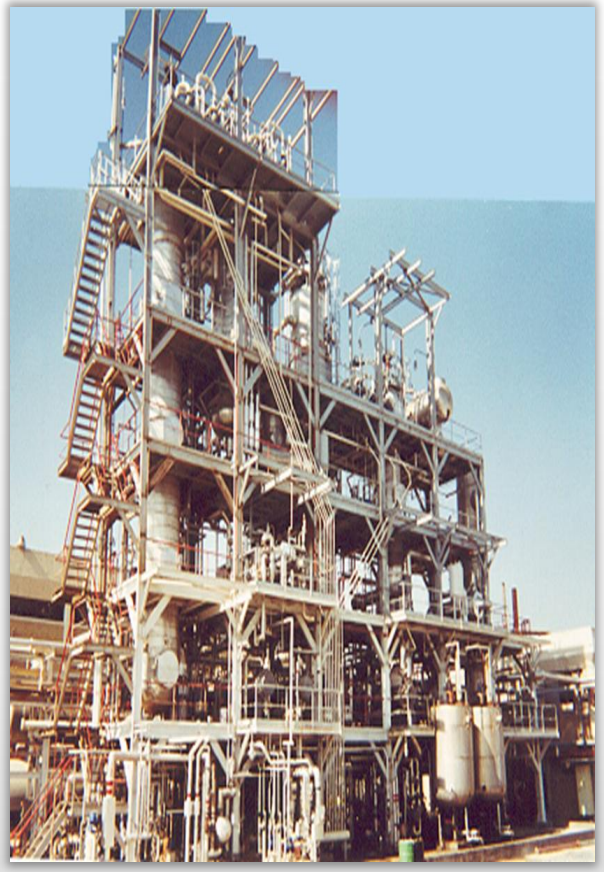
REFERENCE PLANT: SIRAL

Client: SIRAL SpA
Nola, Italy

Capacity: 30,000 ton/year

Year: 2008

REFERENCE PLANT: KLOC



Client: KLOC Kuwait Lube Oil Company
Ahmadi, Kuwait

Capacity: 27,000 Ton/year

Year: 2000

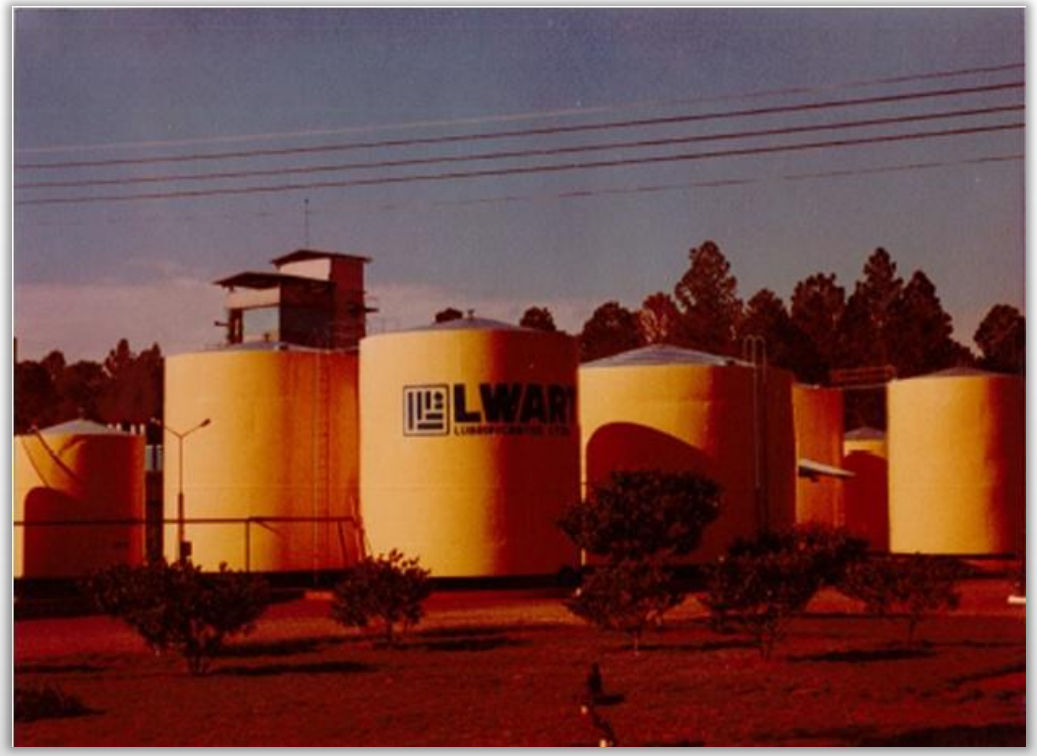
REFERENCE PLANT: SOTULUB

Client: SOTULUB Société Tunisienne Lubrifiants
Bizerte, Tunisia

Capacity: 20,000 Ton/year

Year: 1998

REFERENCE PLANT: LWART



Client: GRUPO LWART
Lencois Paulista, Brazil

Capacity: 60,000 Ton/year

Year: 1997

REFERENCE PLANT: RAMOIL

Client: RAMOIL
Naples, Italy

Capacity: 30,000 Ton/year

Year: 1996

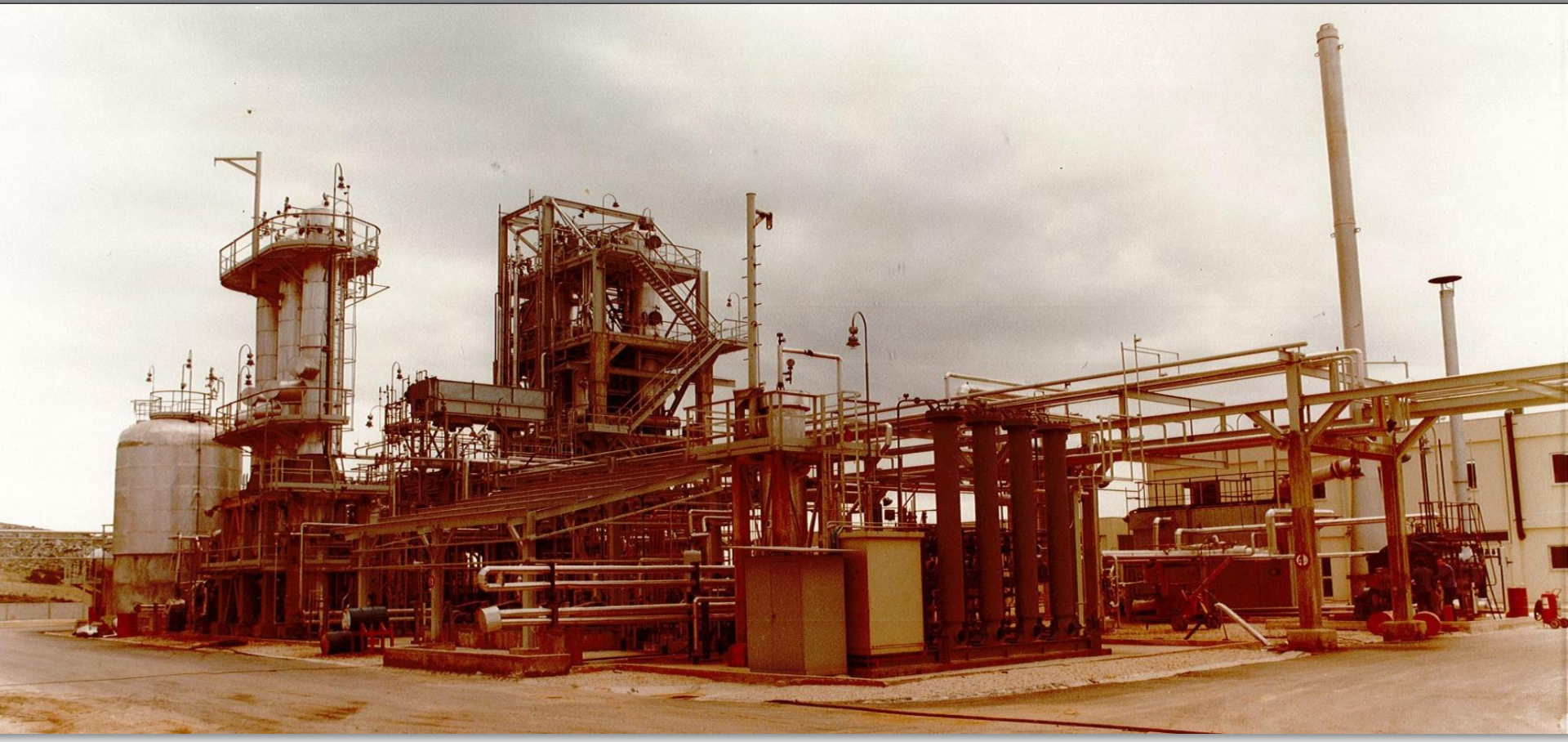
REFERENCE PLANT: SOTULUB

Client: SOTULUB Société Tunisienne Lubrifiants
Bizerte Tunisie

Capacity: 16,000 Ton/year

Year: 1989

REFERENCE PLANT: EKVE



Client: LPC/CYCLON Hellas
Aspropyrgos, Greece

Capacity: 25,000 Ton/year

Year: 1985

STP PUBLICATIONS

STP Publications and Conference presentations on Used Lube Oil Re-refining:

- *A Project case: the 120,000 Ton/year OSILUB Re-refining Plant*, 3rd CIS Base Oils, Lubrificants & Fuels Annual Conference, Moscow, Russia, May 2015.
- *A successful waste management investment,* UNEP-BIMTECH International Expert's Workshop on Destruction Technologies for Waste Oils, New Delhi, India, November 2011.
- *A re-refining eco-friendly technology,* Indian Institute of Petroleum (IIP) Workshop on Used Oil Recycling, Dehradun, India, November 1999.
- *Modification of existing re-refining units and realization of new modular units,* NORA Conference and Trade Show, Palm Springs, USA, November 1999
- *The hidden asset,* Fifth Conference on Spent Lube Oil Re-refining, Las Vegas, USA, September 1982.
- *The used lube oil: a resource not to underevaluate*, Chemical Industries Magazine, Italy, February 1982.

TESTIMONIALS

US PRESS RELEASE ON ORIGIN INTERNATIONAL OIL RECYCLING PLANT

ORIGIN INTERNATIONAL INC COMMENCES BALTIMORE RECYCLING PLANT PROJECT

October 28, 2019 09:03 AM Eastern Daylight Time

BALTIMORE--(BUSINESS WIRE)--Origin International Inc ("Origin") is proceeding with the next phase of development for the United States East Coast's largest and only water bounded used oil recycling plant.

Origin is a leading environmental infrastructure and services group operating in the United States and Europe. To date Origin has established itself as one of the largest privately held used oil collectors in the United States as well as the largest mobile hydrocarbon recovery service provider in Europe which includes degassing, filtration and vapor recovery for maritime vessels, tank farms and industrial facilities.
Origin's planned construction project in its Baltimore terminal will provide the United States East Coast with its largest, most versatile and only water bounded used oil recycling plant, regenerating close to one million barrels per annum of used and contaminated liquid hydrocarbons that it can receive by truck, rail, vessel or barge. The new plant will create an estimated 200 jobs during peak construction and 20 new full-time jobs at the site, with recruitment focused on residents in the Baltimore area.

The engineering and construction management team is making progress on several fronts. Day & Zimmermann Process & Industrial division is providing overall project management services as well as engineering and procurement for offsites and utilities equipment. WBCM Construction Services with sister company Whitney Bailey Cox & Magnani LLC is performing overall construction management, preconstruction planning and permitting services. Studi Tecnologie Progetti S.p.A. Italy (STP) is performing process unit engineering, detailed design, procurement and site supervision. Becht Engineering is serving as owner's engineer for the entire project. Front-end engineering and design has been completed by STP for the process unit and is in progress for offsites and utilities. Detailed design, preconstruction site planning and permitting are underway.

"This project represents a major milestone in Origin's strategic growth plan in terms of vertical integration as well as providing a cradle to grave solution for the broadest range of waste liquid hydrocarbons. Our goal is that this plant will provide significant environmental and community related benefits to the city of Baltimore and surrounding mid-Atlantic regions," said Nicholas Myerson, CEO of Origin.

"Day & Zimmermann is excited to be part of Origin's strategic growth plan," says Bill Wasilewski, President of Day & Zimmermann's Process & Industrial Division. "We are particularly pleased to work within the capital project delivery team that has a common focus on delivering an asset that maximizes its return to investors."

About Origin International
Origin International seeks to acquire and consolidate strategically located oil terminals, oil processing facilities, and storage assets throughout North America and Europe. The firm's acquisition strategy focuses on waste oil recovery and recycling segments. For more information about Origin, visit www.origin-international.us. For more information on Origin's largest shareholder, Element Group SA, visit www.element-alpha.com.

CONTACTS

Rachel Deaver
Public Relations
443-573-1042
rd@origin-americas.us

STP ATTENDANCE TO 7th CIS BASE OILS, LUBE & FUELS ANNUAL CONFERENCE

GLOBUC

CERTIFICATE OF

7th ANNUAL CONFERENCE
CIS BASE OILS & LUBRICANTS

APPRECIATION

This certificate is awarded to

MR. ALESSIO BIANCARI

for his contributions as a

SPEAKER

at the

7th Annual Base Oils & Lubricants Conference 2019

21-23 May 2019

Radisson Collection Hotel

Moscow, Russian Federation

Global Business Club Ltd · Bolton - UK - www.globuc.com · GLOBUC

JIVKO GADJOUROV

CEO, GLOBUC

ROSNEFT LUBRICANTS

EVONIK POWER TO CREATE

eni Additives

eni

versalis

ARLANXEO Performance Elastomers

ExxonMobil

STP ATTENDANCE TO 3rd CIS BASE OILS, LUBE & FUELS ANNUAL CONFERENCE

35+ YEARS

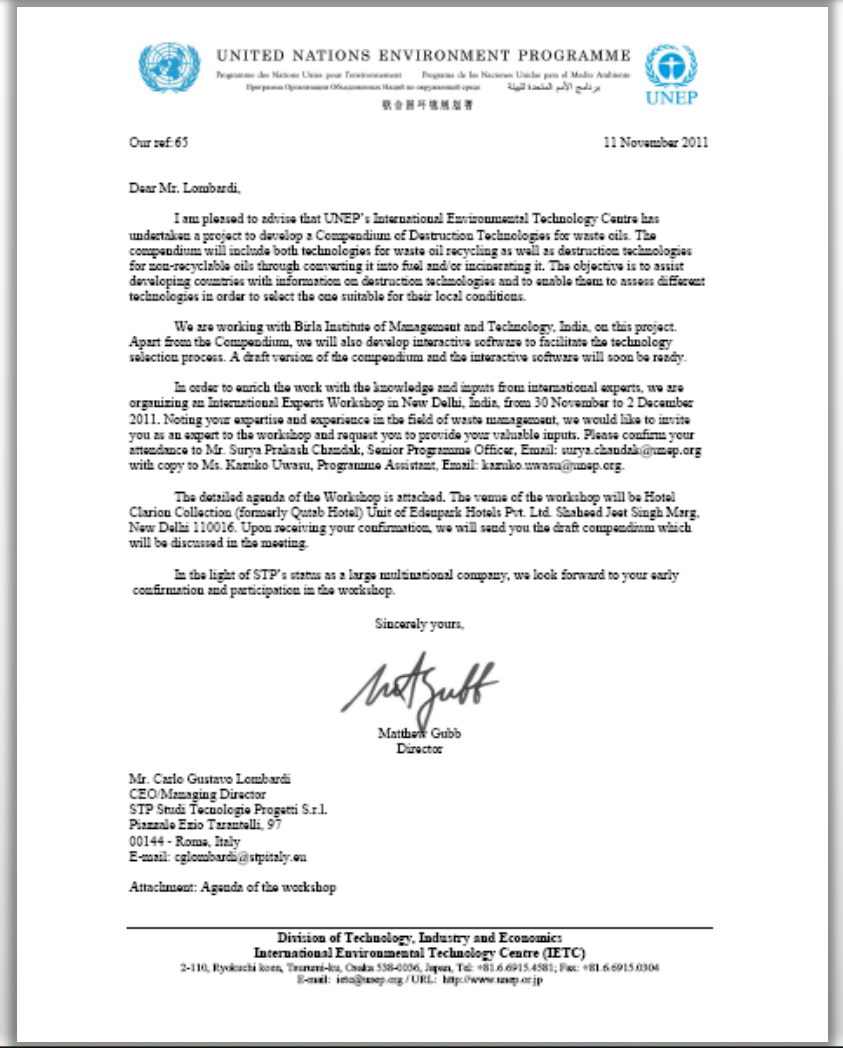
CIS BASE OILS, LUBRICANTS & FUELS
III Annual Conference

26 - 28 May 2015
Moscow, Russia

13:30 III USED OILS RE-REFINING TECHNOLOGIES

- Overview of used oils collection and re-refining projects in Russia and the CIS
  VLADIMIR SPIRKIN, *Professor, Academician,* **GUBKIN RUSSIAN STATE UNIVERSITY OF OIL AND GAS**
- Used oil and oil sludge recycling
  BORISS NIGROVSKY, *Sales Manager* CIS, **FLUID SOLUTIONS**
- Waste oil treatment. A question of strategy
  LUIS BERTRAND, *Vice President,* **SWEET GAZOIL**
- STP project in France: The OSILUB plant is one of the largest re-refining plant in the world
  CARLO GUSTAVO LOMBARDI,*CEO / Managing Director,* **S.T.P. STUDI TECNOLOGIE PROGETTI**

PARTICIPATION TO UNITED NATIONS ENVIROMENT PROGRAMME



UNITED NATIONS ENVIRONMENT PROGRAMME

UNEP

Our ref: 65

11 November 2011

Dear Mr. Lombardi,

I am pleased to advise that UNEP's International Environmental Technology Centre has undertaken a project to develop a Compendium of Destruction Technologies for waste oils. The compendium will include both technologies for waste oil recycling as well as destruction technologies for non-recyclable oils through converting it into fuel and/or incinerating it. The objective is to assist developing countries with information on destruction technologies and to enable them to assess different technologies in order to select the one suitable for their local conditions.

We are working with Birla Institute of Management and Technology, India, on this project. Apart from the Compendium, we will also develop interactive software to facilitate the technology selection process. A draft version of the compendium and the interactive software will soon be ready.

In order to enrich the work with the knowledge and inputs from international experts, we are organizing an International Experts Workshop in New Delhi, India, from 30 November to 2 December 2011. Noting your expertise and experience in the field of waste management, we would like to invite you as an expert to the workshop and request you to provide your valuable inputs. Please confirm your attendance to Mr. Surya Prakash Chandak, Senior Programme Officer, Email: surya.chandak@unep.org with copy to Ms. Kazuko Uwasu, Programme Assistant, Email: kazuko.uwasu@unep.org.

The detailed agenda of the Workshop is attached. The venue of the workshop will be Hotel Clarion Collection (formerly Qutab Hotel) Unit of Edeupark Hotels Pvt. Ltd. Shaheed Jeet Singh Marg, New Delhi 110016. Upon receiving your confirmation, we will send you the draft compendium which will be discussed in the meeting.

In the light of STP's status as a large multinational company, we look forward to your early confirmation and participation in the workshop.

Sincerely yours,

Matthew Gubb
Director

Mr. Carlo Gustavo Lombardi
CEO/Managing Director
STP Studi Tecnologie Progetti S.r.l.
Piazzale Enio Tarantelli, 97
00144 - Roma, Italy
E-mail: cglombardi@stpitaly.eu

Attachment: Agenda of the workshop

Division of Technology, Industry and Economics
International Environmental Technology Centre (IETC)
2-110, Ryokuchi koen, Tsurumi-ku, Osaka 538-0036, Japan, Tel: +81.6.6915.4581; Fax: +81.6.6915.0304
E-mail: ietc@unep.org / URL: http://www.unep.or.jp

UNEP - INTERNATIONAL EXPERT'S WORKSHOP, NEW DELHI - INDIA

35+ YEARS

BIMTECH
BIRLA INSTITUTE OF MANAGEMENT TECHNOLOGY
Excellence with Values

UNEP

UNITED NATIONS ENVIRONMENT PROGRAMME
UNEP-DTIE-IETC
In collaboration with
Birla Institute of Management Technology (BIMTECH)

International Experts' Workshop on Destruction Technologies for Waste Oils

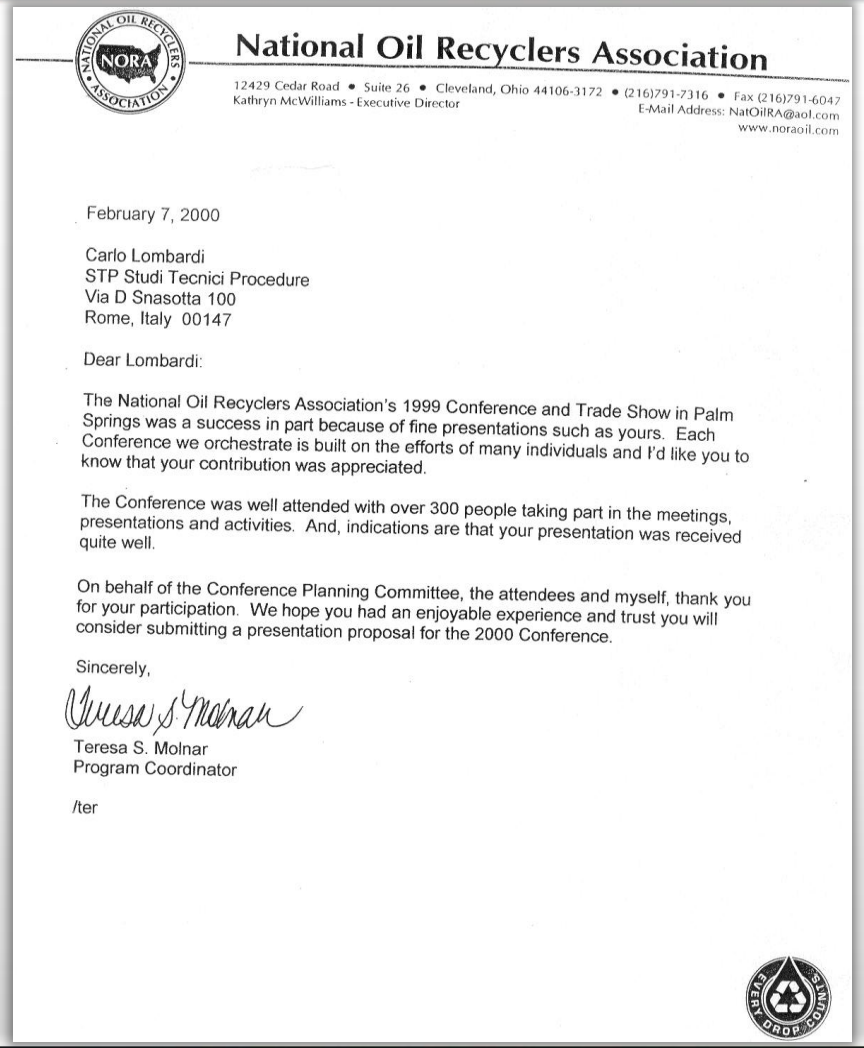
Certificate of Participation

This is to certify that Mr./Ms. Carlo Gustavo Lombardi has participated in International Workshop of experts for reviewing the draft manuscript of **"Destruction Technologies for Waste Oils"** held in New Delhi – India, during 30th Nov. 2011 to 2nd December 2011 in India, and has contributed in modifying the document. The workshop was organized by the United Nations Environment Programme UNEP-DTIE-IETC in collaboration with Birla Institute of Management Technology, Greater Noida – India.

Dr. H. Chaturvedi
Director, BIMTECH

STP ATTENDANCE TO NORA CONFERENCE AT PALM SPRINGS (USA)

35+ YEARS



National Oil Recyclers Association

12429 Cedar Road • Suite 26 • Cleveland, Ohio 44106-3172 • (216)791-7316 • Fax (216)791-6047
Kathryn McWilliams - Executive Director
E-Mail Address: NatOilRA@aol.com
www.noraoil.com

February 7, 2000

Carlo Lombardi
STP Studi Tecnici Procedure
Via D Snasotta 100
Rome, Italy 00147

Dear Lombardi:

The National Oil Recyclers Association's 1999 Conference and Trade Show in Palm Springs was a success in part because of fine presentations such as yours. Each Conference we orchestrate is built on the efforts of many individuals and I'd like you to know that your contribution was appreciated.

The Conference was well attended with over 300 people taking part in the meetings, presentations and activities. And, indications are that your presentation was received quite well.

On behalf of the Conference Planning Committee, the attendees and myself, thank you for your participation. We hope you had an enjoyable experience and trust you will consider submitting a presentation proposal for the 2000 Conference.

Sincerely,

Teresa S. Molnar
Program Coordinator

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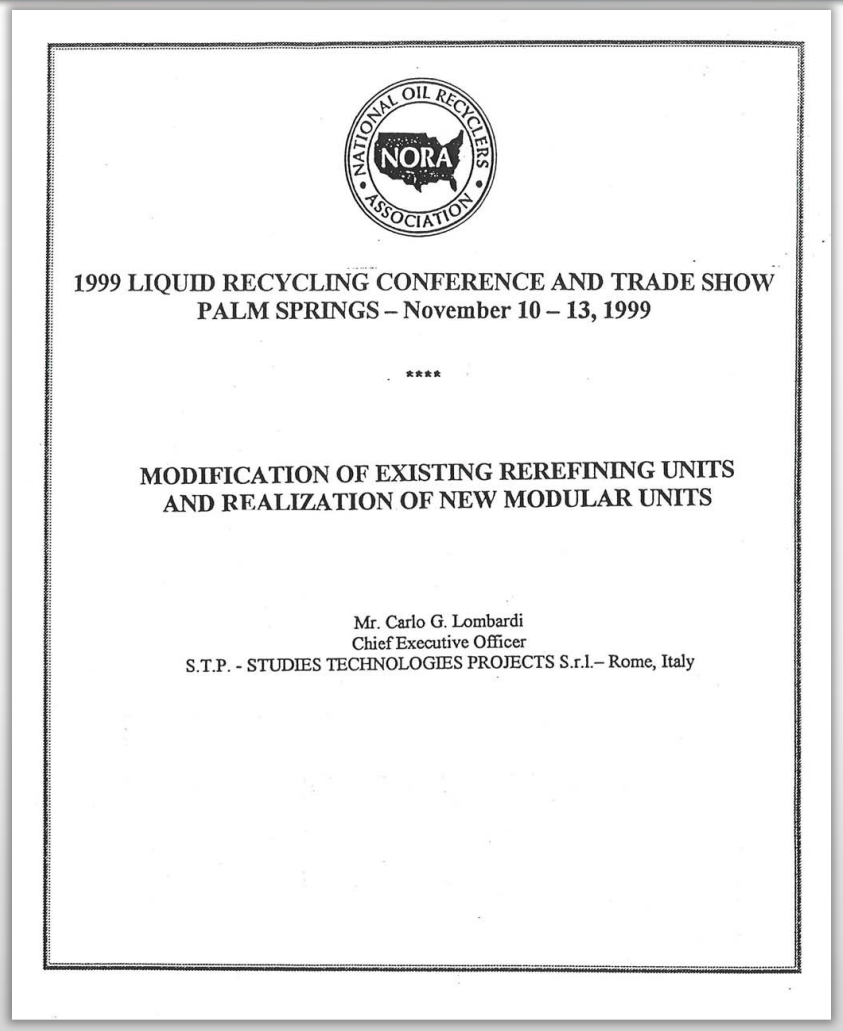

1999 LIQUID RECYCLING CONFERENCE AND TRADE SHOW
PALM SPRINGS – November 10 – 13, 1999

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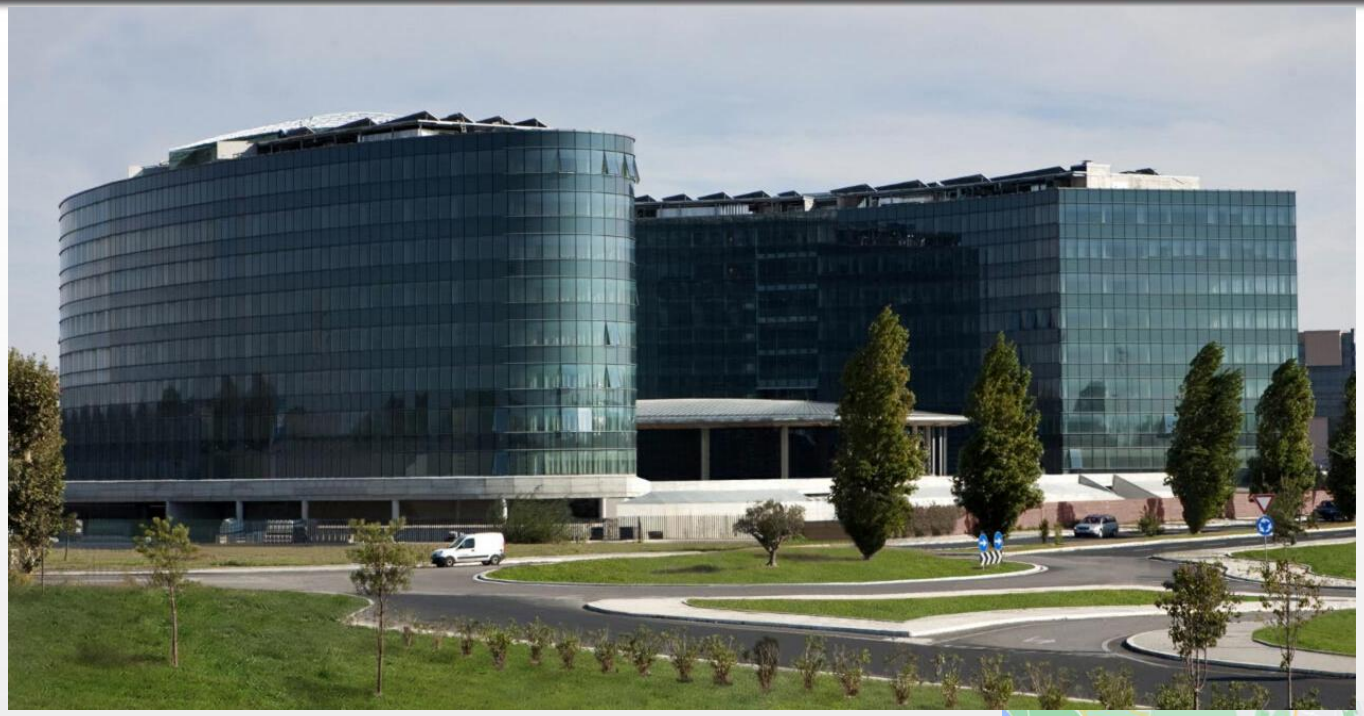
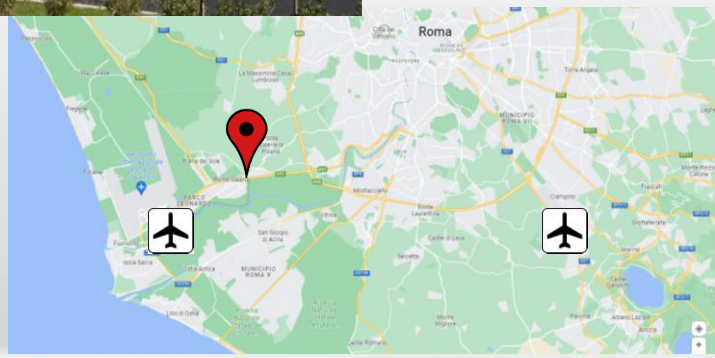
MODIFICATION OF EXISTING REREFINING UNITS
AND REALIZATION OF NEW MODULAR UNITS

Mr. Carlo G. Lombardi
Chief Executive Officer
S.T.P. - STUDIES TECHNOLOGIES PROJECTS S.r.l.– Rome, Italy

CONTACT US





HOME OFFICE

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Thank you for your attention